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TAGS: TSPA EINV ETRD PGOV PREL PINR GM
SUBJECT: GERMANY: RAPIDEYE AG READY TO SELL UNIQUE
SATELLITE IMAGERY BY JANUARY 2009

¶1. (SBU) SUMMARY: By January 2009, German satellite imagery provider RapidEye AG (RE) will likely begin commercial delivery (without significant export restriction) of unique, space-based imagery with potential reconnaissance applications and capable of imaging any point on Earth daily. Although primarily designed to image biomass, RapidEye's multi-spectral-imagery (MSI) capabilities and high revisit rate will serve expanded customer applications such as broad area coverage (similar to USG LandSat program), land-use change detection, and possibly even camouflage detection. Still seeking a large commercial contract for agricultural imagery and operating on a dwindling 160 million euro of seed funding secured in 2004, the company's business model will likely be adjusted to sell MSI to worldwide customers with a variety of national security interests. END SUMMARY

IMAGING CAPABILITIES

¶2. (SBU) RapidEye's system distinguishes itself from its peers with its combination of a wide imaging spectrum, high revisit rate, and considerable imaging volume. The system images in five spectral bands including blue, green, red, red-edge, and near infra-red. The red-edge spectral band is a unique capability, which is important for RapidEye analysis of crop health/ stress and gives the company first-mover advantage in a niche market.

¶3. (SBU) Each satellite images a 77 kilometer (km)-wide swath while orbiting the earth in a sun-synchronous orbit (inclination angle 97.8 deg) 15 times per day. Because of the orbital geometry and its swath width, RapidEye platforms can image the entire globe in as little as five days (assuming no cloud cover) or a large targeted land mass like Germany in as little as four days. The system also has a limited ability (18 degrees off nadir) to steer their imaging, allowing them to image any point on the Earth on a daily basis. Because RapidEye does not possess real-time control of their satellites, targeting of a specific area for imagery not already scheduled to be imaged would require up to 24-hour prior notice for satellite tasking.

¶4. (SBU) RapidEye imagery has a horizontal resolution of 6.5 meters with a pixel size of 5 meters. At this resolution, for example, buildings and large machinery would be distinguishable, whereas automobiles might not. RapidEye also has the ability to produce digital elevation models (DEM). Company officials said that DEM capabilities are currently being developed and predicted that their system could populate up to 50 thousand square kilometers worth of DEM data per day with a vertical resolution of around 19 meters.

FOREIGN INTEREST / EXPORT RESTRICTIONS

¶5. (SBU) In an October 15 meeting, RapidEye officials (in the presence of CEO Wolfgang Biedermann) told EconOff that they have received a considerable amount of interest from foreign governments. Regarding this interest, Biedermann helpfully clarified, "you know, for intelligence applications." For the most part, the export of RapidEye imagery is not restricted under German export law. The only exceptions would be if the export destination was a listed country, firm, or individual prohibited by the German Federal Office for Export Control (BAFA), such as Iran. In export cases where the end-user is not listed (but may be of export concern due to the dual-use nature of satellite imagery), Biedermann said his company would inquire with BAFA whether or not export control laws apply.

EXPANDING THE BUSINESS MODEL - CAREFULLY

¶6. (SBU) Biedermann added that many potential foreign customers have expressed interest only in raw imagery data, rather than in purchasing their analytical products. While Biedermann's clear preference is to focus the business model on delivering analytic product, he has made the executive decision to foster these business opportunities while maintaining control of their data. Biedermann said, "RapidEye understands the opportunity to just sell raw data, but RapidEye does not distinguish between raw versus processed data pricing wise."

¶7. (SBU) Biedermann also indicated that foreign governments have expressed an interest in setting up ground stations for direct download of RapidEye data. Biedermann rejected this notion, saying that "we do not like this idea at all, it is our data, and we want to control our archives." However, he

left the door open and added, "However, this all depends on our customer needs and anything is possible."

¶8. (SBU) Biedermann said that RapidEye is always interested in expanding its product offerings and capabilities, mentioning the possibility of partnering with space-based radar data providers. (COMMENT: Space-based radar data could potentially be used to fill imagery requirements when environmental factors such as cloud cover would obstruct RapidEye electro-optical imagery. Based on unclassified notes from a NGA visit to RapidEye on September 8, RapidEye already has a cooperation agreement with EADS Astrium subsidiary Infoterra Ltd, which holds exclusive commercial rights over TerraSAR-X space based radar data. END COMMENT.)

PROSPECTS

¶9. (SBU) Although RapidEye is nearing full operational status, they are running on fumes financially. Their 160 million euro 2004 financing is running out and they have apparently not seen the demand they expected from the agricultural industry - their primary business focus. Biedermann complained about the difficulty of marketing their product to the agricultural insurance industry and said they are still looking for an economic hook to entice customers. To further complicate this situation, the current financial crisis may limit their future financing options, thereby increasing the pressure to reach out to more liquid sources of cash.

¶10. (SBU) RapidEye knows that their long-term viability is dependent on their ability to establish themselves be a provider of processed imagery and analytic product and not simply as a raw data provider. Since RapidEye does not hold intellectual property rights (IPR) on their satellite bus or imaging technology, there is nothing stopping instant competition from arising if another firm were to procure an identical satellite constellation.

ABOUT RAPIDEYE

¶11. (SBU) Founded in 1998, RapidEye AG is a Brandenburg based German start-up of approximately 90 employees. Their primary business model is to provide imagery and value-added analysis of large areas of biomass for insurance companies and agricultural commodity futures traders. To accomplish this task, RapidEye procured five 380 kg micro-satellites from the UK based Surrey Satellite Technology Ltd (SSTL) and multi-spectral space cameras from the German firm Jena-Optronic GmbH. On August 29, 2008 RapidEye successfully launched this constellation onboard a Dnepr rocket from the Baikonur Cosmodrome in Kazakhstan. Through a contract set up with Kongsberg Satellite Services AS, all RapidEye imagery is downloaded to an X-band antenna located in Svalbard, Norway. From their Brandenburg headquarters, they task the satellites via S-Band radio, receive the Svalbard downloaded imagery via a fiber-optic line, and produce their imagery products and analysis for export. In total, RapidEye's costs to date are approximately 160 million euro for the entire package including; the satellites, sensors, launch, facilities costs, and employees. On October 21, RapidEye released their first public imagery, showcasing the capabilities of the RapidEye constellation. According to company officials, they expect to deliver their first commercial imagery by January 2009.
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